

The first plot show HXRS (hard X-ray Spectrometer) observations of the April 21 X 1.5 flare, with light curves in seven energy bands, labeled by keV on the plot. The satellite (MTI) carrying the HXRS is high inclination so it passes through the radiation belts on every pass. The big bursts at 0115-0120 and 0145-0150 are both ambient particles.

The second plot is the flare spectral index as a function of time, with the bursts shown as dropouts in the spectral index (solid line). The dotted line shows the 29-44 keV flux (divided by 2) for comparison.

The sawtooth pattern in gamma after 0155 is attributed to spectral hardening, believed to be associated with the large proton event that followed this flare (the sawtooth pattern represents a computational instability that often occurs when the higher energy fluxes almost overlap). There is also evidence of hardening during the premax part of this flare, part of which coincided with the early ambient particle burst.

The HXRS is an experiment operated jointly by the SEC/NOAA and the Czech Astronomical Institute.



